GRADES AND YIELDS OF ROSIN AND TURPENTINE FROM CRUDE GUM

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There are at present twelve rosin grades, as established by the Food and Drug Administration under the Federal Naval Stores Act. These grades are: X, WW, WG, N, M, K, I, H, G, F, E, and D, the color increasing from a pale yellow, "X", to a dark red known as "D".

Rosin is like many other products in that the better, or paler, grades sell for higher prices. Many operators have increased their income by adopting practices that produce paler, or better, grades of rosin.

What are the chief items that affect rosin grades and yields? For a period of 6 years, the Naval Stores Station at Olustee, Florida, has kept records of 1,420 charges of gum during this period to determine the answer to this question. Although many causes may affect yields and grades of rosin, the most important are: (1) Condition of cups and tins; (2) dirt; (3) small pieces of chips and bark; (4) frequency of dipping; (5) age of face; (6) distance gum flows over face; and (7) amount of scrape. Of these, the condition of cups is the greatest single factor affecting rosin grades. Only rustless cups will give a good grade of rosin over a period of years. Many operators have obtained good results by cleaning and painting their cups when rust begins to appear.

Sand may cause scorching in the still, lowering the grade of rosin to be made although the gum may contain little or no other trash. Virgin cups, because of nearness to the ground, catch more dirt than higher cups. Cups should, if possible, be raised from the ground for the yearling year. Chips, bark, and straw affect the yields in turpentine and rosin more than the grades. Unless the chips are scorched in the still during distillation, they should not affect the grade materially. Chips, however, carry away rosin in the chip catcher. The longer gum remains in rusty cups the lower the grade of rosin. This is due to the action of the cups, air, and temperature on the gum. Cups should be dipped every 3 weeks at the least during the regular dip season.

The age of the face and the distance of the cup from the streak have similar effect on the grade and yield, largely due to the air and temperature. Raised cups and new tins are the essentials to keep the grades up, provided the cups are in good condition.

Scrape makes a lower color grade of rosin than does pure dip, due, it is believed, to oxidation of the gum and loss of turpentine. The yield in turpentine is much lower from scrape than from dip. One of the big factors affecting the yield and grade of rosin in scrape is the large amount of chips and the scorching of the chips in the still.

Water content is a big factor in yields from crude gum. Even where no water is visible, the dip and scrape contain approximately 7 percent. During rainy seasons when water is visible, the percentage of water runs from 10 to 15 percent. Operators and gum

farmers not using paddles on their cups during chipping, and dipping less frequently than on every third streak, could greatly increase their yields and grades by adopting these practices.

Yields in turpentine and rosin and the grade of rosin that can be made from crude gum can be estimated to a comparatively accurate degree if the gum is free of dirt and only a small amount of chips is present. Experience in handling gum is needed before such estimates can be made accurately. Running test charges is the best method of checking such estimates of yields and grades.

A summary of yields in turpentine and rosin from crude gum for varying amounts of chips and scrape may be obtained, upon request, from the Naval Stores Station at Olustee, Florida.